MECHANISM FOR THE DEPLOYMENT OF ENDOVASCULAR IMPLANTS

ABSTRACT OF THE DISCLOSURE

A mechanism for the deployment of a filamentous endovascular device includes a flexible deployment tube having an open proximal end, and a coupling element attached to the proximal end of the endovascular device. The deployment tube includes a distal section terminating in an open distal end, with a lumen defined between the proximal and distal ends. A retention sleeve is fixed around the distal section and includes a distal extension extending a short distance past the distal end of the deployment tube. The endovascular device is attached to the distal end of the deployment tube by fixing the retention sleeve around the coupling element, so that the coupling element is releasably held within the distal extension of the deployment tube. In use, the deployment tube, with the implant attached to its distal end, is passed intravascularly through a microcatheter to a target vascular site until the endovascular device is located within the site. To detach the endovascular device from the deployment tube, a liquid is injected through the lumen of the deployment tube so as to apply pressure to the upstream side of the coupling element, which is thus pushed out of the retention sleeve by the fluid pressure. The coupling element may include an internal or peripheral purge passage that allows air to be purged from the microcatheter prior to the intravascular passage of the endovascular device.